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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Gennosuke Mutoh

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7590

10/02/2006

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EXAMINER

BRIER, JEFFERY A

ART UNIT

PAPER NUMBER

2628

DATE MAILED: 10/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	10/616,148		MUTOH, GENNOSUKE	
	Examiner		Art Unit	
	Jeffery A. Brier		2628	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 July 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-19,21-38 and 40-57 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-19,21-38 and 40-57 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 7/10/2006 has been entered.

Response to Amendment

2. The amendment filed on 7/10/2006 has been entered.

Response to Arguments

3. Applicant's arguments filed 7/10/2006, with respect to the rejection(s) of the claim under Suzuki have been fully considered and in view of the claims amendments are persuasive. Therefore, the rejection has been overcome by the amended claims. However, upon further consideration, a new ground(s) of rejection is made in view of Nakami et al. of record and 35 USC 101.

Claim Objections

4. Claim 8 is objected to because of the following informalities: "compares comprises information" needs rewording. Appropriate correction is required.

Claim Rejections - 35 USC § 101

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. Claims 2-19, 21-38, and 40-57 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The claims are not directed to a useful, concrete, and tangible result and are directed to manipulating abstract ideas. Independent claims 2 and 23 claim an apparatus for and method for changing the size of image data but do not claim in the body a useful, concrete, and tangible result of the sharing-ratio. Applicants define the apparatus as a program at page 21 line 21 to page 22 line 5, page 25 lines 4-19, page 25 line 24 to page 26 line 14, and page 27 lines 17-23 discusses the program being considered to be the apparatus that performs the functions. Thus, the apparatus, method, and computer readable medium claims are similar in scope. *State Street Bank & Trust Co. v. Signature Financial Group Inc.* (CA FC) 47 USPQ2d 1596, 1603 (7/23/1998). *AT&T Corp. v. Excel Communications Inc.* (CA FC) 50 USPQ2d 1447. On page 1603 first paragraph the CAFC wrote in *State Street*:

Under *Benson*, this may have been a sufficient indicium of nonstatutory subject matter. However, after *Diehr* and *Alappat*, the mere fact that a claimed invention involves inputting numbers, calculating numbers, outputting numbers, and storing numbers, in and of itself, would not render it nonstatutory subject matter, unless, of course, its operation does not produce a "useful, concrete and tangible result." *Alappat*, 33 F.3d at 1544, 31 USPQ2d at 1557. 7

On page 1603 paragraph labeled [4] the CAFC wrote:

[4] The question of whether a claim encompasses statutory subject matter should not focus on which of the four categories of subject matter a claim is directed to -- process, machine, manufacture, or composition of matter-- but rather on the essential characteristics of the subject matter, in particular, its practical utility. Section 101 specifies that statutory subject matter must also satisfy the other "conditions and requirements" of Title 35, including novelty, nonobviousness, and adequacy of disclosure and notice. See *In re Warmerdam*, 33 F.3d 1354, 1359, 31 USPQ2d 1754, 1757-58 (Fed. Cir. 1994).

Refer also to the "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility published on the USPTO website on October 26, 2005,

http://www.uspto.gov/web/offices/pac/dapp/opla/preognotice/guidelines101_20051026.pdf

and published in the OG 22Nov2005

<http://www.uspto.gov/web/offices/com/sol/og/2005/week47/patgupa.htm>).

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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7. Claims 2-19, 21-38, and 40-57 are rejected under 35 U.S.C. 102(e) as being anticipated by Nakami et al., US Patent No. 6,510,254.

Nakami teaches the sharing-ratio determining part at steps ST206 and ST210, ST306 and ST310, ST506 and ST508, ST606 and ST608, ST714 to ST720 that determines the sharing ratio of the first processing way (hybrid bicubic method) and a second processing way (nearest method). Nakami discusses performing the first processing way for part of the image scaling and performing the second processing way for the remainder of the scaling at column 12 lines 30-39, column 12 line 64 to column 13 line 17, and column 14 lines 40-61.

Figure 21 and the corresponding description, column 14 lines 40-61, teaches using the longer hybrid bicubic method for size changes below a predetermined size change in step ST308 and using both the hybrid bicubic method and the nearest method in step ST 310 in order to perform the scaling within a given time duration.

A detailed analysis of the claims follows.

Claim 4:

Nakami teaches an image processing apparatus for changing the size of image data of an original image (*column 1 lines 8-12*), comprising:

a comparison part comparing an image information value which indicates predetermined image information of the original image (at least image size, see dependent claims 5 and 6, or at least color see dependent claims 7 and 8.), with a corresponding predetermined reference value which is previously set for each of the

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predetermined image information (steps ST206, ST306, ST506, ST606, and ST706-ST714); and

a sharing-ratio determining part which, based on a comparison result of said comparison part, determines a sharing ratio in processing for changing the size of the image data between a first processing way and a second processing way different from said first processing way (steps ST210, ST310, ST508, ST608, and ST714 to ST720), wherein

said sharing-ratio determining part adjusts the sharing ratio in the processing between the first (*hybrid bicubic method. See Figure 21.*) and second (*nearest method. See figure 21.*) processing ways so that the entire process of a predetermined image size-change processing is completed within a given time duration, if a processing time for performing the entire processing of the predetermined image size-change processing utilizing the first processing way (*hybrid bicubic method takes longer to perform than nearest method*) but not the second processing way exceeds the given time duration (*Nakami discusses performing the first processing way for part of the image scaling and performing the second processing way for the remainder of the scaling at column 12 lines 30-39, column 12 line 64 to column 13 line 17, and column 14 lines 40-61 in order to perform the processing more quickly which meets the claim limitation of completing the processing within a given time duration.*). Applicant's specification gives an example of a the claimed "given time duration" at page 47 lines 2-9 as 800ms but does not limit the processing to that specific example, thus, any time duration that is an acceptable limit meets this claim limitation. Therefore, the decision in

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Nakami to limit the hybrid bicubic method to a processing limit in order to limit the time needed to change the size of the image meets the claim limitation of "given time duration". Similarly the discussion at column 13 lines 47-52 of maintaining the amount of computation during the interpolation process teaches the claimed "given time duration". Using the hybrid bicubic method takes more time than the nearest method which is why Nakami column 12 lines 30-39, column 12 line 64 to column 13 line 17, and column 14 lines 40-61 teaches using both of the hybrid bicubic method and the nearest method.

Claim 2:

Nakami teaches the image processing apparatus as claimed in claim 4,
wherein:

said first processing way (*hybrid bicubic method*) comprises a way for achieving a high-order image processing for controlling image degradation. The is a

Claim 3:

Nakami teaches the image processing apparatus as claimed in claim 4,
wherein:

said second processing way (*nearest method*) comprises a way of simply changing the number of pixels without changing the respective pixel values.

Claim 5:

Nakami teaches the image processing apparatus as claimed in claim 4,

said comparison part compares an image data size-change rate required with a

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predetermined reference value instead of comparing the predetermined image information value of the original image (*steps ST206, ST306, ST506, ST606, and ST706-ST714 compare the image data size change with a reference size change.*).

Claim 6:

Nakami teaches the image processing apparatus as claimed in claim 4, the information of the image information value and predetermined reference value which said comparison part compares comprises information concerning the data size of the original image (*The size of the input original image is compared with the post interpolation image size. See steps ST202-ST206, ST302-ST306, ST502-ST506, and ST602-ST606.*).

Claim 7:

Nakami teaches the image processing apparatus as claimed in claim 4, the information of the image information value and predetermined reference value which said comparison part compares comprises information concerning the number of colors expressible by each pixel of the original image. Column 1 lines 52-56 discusses that color images require more processing, column 15 lines 21-28 discusses color or monochrome image, column 17 lines 3-23 discusses improving color size changes, and column 27 lines 12-42 especially noting 27-38 which discusses the load scale is not solely determined by the size change but also dependent upon the preciseness needed in the interpolation. As discussed at column 8 line 57 to column 9 line 5 a computer graphics image may only require nearest method while a natural photograph (full color) requires the a cubic method. This teaches to one of ordinary skill

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in the art to evaluate the color of the image to determine the preciseness needed in order to determine the ratio of sharing the interpolation methods of nearest method and hybrid bicubic method.

Claim 8:

Nakami teaches the image processing apparatus as claimed in claim 4, wherein:

the information of the image information value and predetermined reference value which said comparison part compares comprises information concerning the resolution of the original image (*steps ST206, ST306, ST506, ST606, and ST706-ST714 compare the image data size change with a reference size change.*).

Claim 9:

Nakami teaches the image processing apparatus as claimed in claim 4, wherein:

the information of the image information value and predetermined reference value which said comparison part compares comprises information as to whether or not the original image is a color image or a monochrome image. Column 1 lines 52-56 discusses that color images require more processing, column 15 lines 21-28 discusses color or monochrome image, column 17 lines 3-23 discusses improving color size changes, and column 27 lines 12-42 especially noting 27-38 which discusses the load scale is not solely determined by the size change but also dependent upon the preciseness needed in the interpolation. As discussed at column 8 line 57 to column 9 line 5 a computer graphics image may only require nearest method while a natural

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photograph (full color) requires the a cubic method. This teaches to one of ordinary skill in the art to evaluate the color of the image to determine the preciseness needed in order to determine the ratio of sharing the interpolation methods of nearest method and hybrid bicubic method.

Claim 10:

Nakami teaches the image processing apparatus as claimed in claim 4,
wherein:

the sharing ratio between the first and second processing ways is determined according to a predetermined attribute of the original image (*hybrid bicubic method and nearest method may be selected based upon the image not requiring hybrid bicubic method*).

Claim 11:

Nakami teaches the image processing apparatus as claimed in claim 4,
wherein:

the sharing ratio between the first and second processing ways is determined according to a permissible time duration for completing the entire process of a relevant image size-change processing (*Nakami determines the size change limit based upon a permissible time duration to ensure the processing will be high speed.*).

Claim 12:

Nakami teaches the image processing apparatus as claimed in claim 4,
wherein:

said first processing way comprises a process for preventing a jaggy from becoming conspicuous (*Column 8 line 57 to column 9 line 2, column 12 line 64 to column 13 line 17, and column 13 line 63 to column 14 line 7 teaches the hybrid bicubic method prevent a jaggy from being conspicuous.*).

Claim 13:

Nakami teaches the image processing apparatus as claimed in claim 10, wherein:

the predetermined attribute of the original image which is used for determining the sharing ratio by said sharing-ratio determining part comprises the number of used colors in the original image. Column 1 lines 52-56 discusses that color images require more processing, column 15 lines 21-28 discusses color or monochrome image, column 17 lines 3-23 discusses improving color size changes, and column 27 lines 12-42 especially noting 27-38 which discusses the load scale is not solely determined by the size change but also dependent upon the preciseness needed in the interpolation. As discussed at column 8 line 57 to column 9 line 5 a computer graphics image may only require nearest method while a natural photograph (full color) requires the a cubic method. This teaches to one of ordinary skill in the art to evaluate the color of the image to determine the preciseness needed in order to determine the ratio of sharing the interpolation methods of nearest method and hybrid bicubic method.

Claim 14:

Nakami teaches the image processing apparatus as claimed in claim 4, wherein:

the sharing ratio between the first and second processing ways is determined by said sharing-ratio determining part according to the contents of image processing in the entire process of a relevant image size-change processing (*This claim appears to be claiming determining the ratio based upon the type of interpolation being performed which is how steps ST210, ST310, ST508, ST608, and ST714 to ST720 determine the amount of processing to be performed by hybrid bicubic method and the amount of processing to be performed by nearest method*).

Claim 15:

Nakami teaches the image processing apparatus as claimed in claim 4, wherein an application of the first and second processing ways is made in such a manner that one of the first and second processing way is applied, and, after that, the other processing way is applied (*The hybrid bicubic method is applied before nearest method is applied. See steps ST210, ST310, ST508, ST608, and ST718 to ST720*).

Claim 16:

Nakami teaches the image processing apparatus as claimed in claim 15, wherein the application of the first and second processing ways is made in such a manner that one of the first and second processing way, which one requires a longer processing time, is applied first, and, after that, the other processing way is applied (*The hybrid bicubic method which takes longer to process than the nearest method is applied before nearest method is applied. See figure 21.*).

Claim 17:

Nakami teaches the image processing apparatus as claimed in claim 4, wherein an application of the first and second processing ways is made in such a manner that one of a first mode and a second mode is selected according to a comparison result of said comparison part,

wherein said first mode is such that both said first and second processing ways are applied in a combination manner , and said second mode is such that only one of the first and second processing ways is applied (*Steps ST208, ST308, ST510, and ST610 apply only the nearest method. Steps ST210, ST310, ST508, ST608, and ST718 to ST720 apply both the hybrid bicubic method and the nearest method.*).

Claim 18:

Nakami teaches the image processing apparatus as claimed in claim 17, wherein said second mode is such that only one of the first and second processing way, which one requires a longer processing time, is applied (*Figure 21 shows only the longer hybrid bicubic method being applied in the second mode.*).

Claim 19:

Nakami teaches the image processing apparatus as claimed in claim 4, wherein:

said first processing way comprises an image size-change processing for an integer size-change rate (*The hybrid bicubic method is used to change an image's*

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size.), and said second processing way comprises an image size-change processing (*The nearest method is used to change an image's size.*).

Claims 21-38:

These claims are method claims that correspond to apparatus claims 1-19 and claim the same function that apparatus claims 1-19 claim, thus, claims 20-38 are rejected for the same reasons given above for claims 1-19.

Claims 40-57:

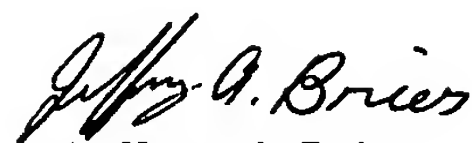
These claims are program for causing a computer to execute each step of the method claims 21-38. Nakami uses a program to cause the computer to execute each method step, thus, Nakami teaches these claims.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffery A Brier whose telephone number is (571) 272-7656. The examiner can normally be reached on M-F from 7:00 to 3:30. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Razavi, can be reached at (571) 272-7664. The fax phone Number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

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you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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